

Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: EOG Resources, Inc.
Well Name/Number: Candee 3-05H
Location: NW SW Section 5 T25N R53E
County: Richland, MT; Field (or Wildcat) Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 30-40 days drilling time.

Unusually deep drilling (high horsepower rig): Triple derrick rig to drill a single lateral horizontal Bakken Formation well, 15,470' MD/9,171' TVD.

Possible H₂S gas production: Slight chance of H₂S.

In/near Class I air quality area: No not in a Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☒ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Existing gas pipelines in the area.

Water Quality

(possible concerns)

Salt/oil based mud: Yes, intermediate casing string hole will be drilled with oil based drilling fluids.

Horizontal Bakken Formation lateral will be drilled with brine water. Surface casing hole will be drilled with freshwater and freshwater mud.

High water table: No high water table anticipated at this location.

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary to West Charley Creek, about 3/16 of a mile to the west of this location.

Water well contamination No, nearby water wells are all less than 150' depth and at least 5/8 of a mile away from this location. Surface casing will be set to 941' and cemented to surface.

Porous/permeable soils: No, sandy clay soils.

Class I stream drainage No, Class I stream drainages in the area of review.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: _____

Comments: 941' of surface casing will be set and cemented to surface, below freshwater zones in adjacent water wells and covering the Fox Hills aquifer. Adequate surface casing and operational BOP equipment will prevent problems any problems.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: None anticipated.

High erosion potential: No high erosion potential, requires a moderate cut, up to 12.1' and moderate fill, up to 16.7', required.

Loss of soil productivity: None, location to be restored after drilling well, if nonproductive. If productive unused portion of the drillsite will be reclaimed.

Unusually large wellsite: No, large well site 450'X330'

Damage to improvements: Slight, surface use appears to be grazing land.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☐ Other _____

Comments: Access will be over county road, #314 and existing well access road. An access road of about 510' will be constructed off the existing well access road. Oil based invert drilling mud will be recycled. Mud solids and cutting will be buried in the lined reserve pit. Completion fluids will be hauled to a commercial Class II disposal well.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Nearest residences are about 1 mile to the west, 2 miles to the southwest and 2.25 miles to the southeast from this location.

Possibility of H2S Slight chance of H2S.

Size of rig/length of drilling time: Triple drilling rig 30 to 40 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Adequate surface casing cemented to surface with an operational BOP stack should mitigate any problems. Noise should not be a problems, sufficient distance from residence to rig should mitigate this.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Species identified as threatened or endangered are the Pallid Sturgeon, Interior Lease Tern, Whooping Crane and Piping Plover. Candidate species are the Greater Sage Grouse and the Sprague's Pipit. NH tracker website lists no species of concern in this Township and Range.

Mitigation:

☐ Avoidance (topographic tolerance/exception)

☐ Other agency review (DFWP, federal agencies, DSL)

☐ Screening/fencing of pits, drillsite

☐ Other: _____

Comments: No concerns on private surface grazing lands. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he

would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified

Mitigation

avoidance (topographic tolerance, location exception)

other agency review (SHPO, DSL, federal agencies)

Other:

Comments: Private surface grazing land. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)

Substantial effect on tax base

Create demand for new governmental services

Population increase or relocation

Comments: No concerns.

Remarks or Special Concerns for this site

Bakken Formation single lateral horizontal well, 15,470' MD/9,171' TVD.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected from the drilling of this well. Some short term impacts will be apparent.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki

(title:) Chief Field Inspector

Date: October 16, 2011

Other Persons Contacted:

(Name and Agency)

Montana Bureau of Mines and Geology, Groundwater Information Center website.

(subject discussed)

Water wells in Richland County

(date)

October 16, 2011

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Richland County

(subject discussed)

October 16, 2011_____

(date)

Montana Natural Heritage Program Website (FWP)

(Name and Agency)

Heritage State Rank= S1, S2, S3, T25N R53E

(subject discussed)

October 16, 2011_____

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____